[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1478; Project Identifier MCAI-2022-00668-E]

RIN 2120-AA64

Airworthiness Directives; Pratt & Whitney Canada Corp. Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2004-04-09, which applies to certain Pratt & Whitney Canada Corp. (P&WC) JT15D-1, JT15D-1A, and JT15D-1B model turbofan engines. AD 2004-04-09 requires a one-time borescope inspection (BSI) of the rear face of certain impellers for evidence of a machined groove or step, and repair or replacement of the impeller if a groove or step is found. Since the FAA issued AD 2004-04-09, the FAA was notified of an uncontained failure of an impeller installed on a P&WC JT15D-1A engine during takeoff and subsequent investigation by the manufacturer that discovered machining marks on the impeller. This proposed AD would require borescope fluorescent penetrant inspection (FPI) of the rear face of certain impellers for evidence of machining witness lines and, depending on the results of the inspection, replacement of the impeller, as specified in a Transport Canada AD, which is proposed for incorporation by reference (IBR). The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this NPRM by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to regulations.gov. Follow the instructions for submitting comments.

• Fax: (202) 493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at regulations.gov under Docket No. FAA-2022-1478 or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

• For material that is proposed for IBR in this AD, contact Transport Canada, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario K1A 0N5, Canada; phone: (888) 663-3639; email: AD-CN@tc.gc.ca. You may find this material on the Transport Canada website at tc.canada.ca/en/aviation.

• You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

FOR FURTHER INFORMATION CONTACT: Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2022-1478; Project Identifier MCAI-2022-00668-E" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2004-04-09, Amendment 39-13490 (69 FR 9520, March 1, 2004) (AD 2004-04-09), for certain P&WC JT15D-1, JT15D-1A, and JT15D-1B model turbofan engines. AD 2004-04-09 was prompted by three reports of uncontained failure of the impeller. AD 2004-04-09 requires a one-time borescope inspection of the rear face of certain impellers for evidence of a machined groove or step, and repair or replacement of the impeller if a groove or step is found. The FAA issued AD 2004-04-09 to prevent uncontained failure of the impeller and possible damage to the airplane.

Actions Since AD 2004-04-09 Was Issued

Since the FAA issued AD 2004-04-09, Transport Canada, which is the aviation authority for Canada, has issued Transport Canada AD CF-2022-27, dated June 2, 2022 (Transport Canada AD CF-2022-27), to address an unsafe condition for P&WC JT15D-1,

JT15D-1A, and JT15D-1B model turbofan engines. The MCAI states that there has been one recent in-service event of a JT15D-1A engine uncontained failure during a takeoff roll of the airplane. An investigation by P&WC has determined that a crack originated from machining marks on the back face of the impeller and subsequently propagated until the impeller fractured. There is evidence that the event engine had been previously inspected in accordance with P&WC Service Bulletin (SB) No. JT15D-72-7590, dated May 23, 2003 (mandated by Transport Canada AD CF-2003-17, dated June 23, 2003), but it appears that the machining marks were not detected. P&WC, therefore, published P&WC SB JT15D-72-7655, Original Issue, dated April 14, 2022, to inspect the rear face of the impeller using a new borescope FPI procedure. As a result, Transport Canada issued AD CF-2022-27 to require accomplishment of the borescope FPI at the next hot section inspection until the impeller, part number (P/N) 3020365, is replaced at the next scheduled engine overhaul.

This proposed AD was prompted by three prior reports of uncontained failure of the impeller, and one additional recent report of an in-service uncontained failure event. The FAA is proposing this AD to address uncontained failure of the impeller. This condition, if not addressed, could result in fracture of the impeller, subsequent uncontained failure of the engine, and damage to the airplane. See Transport Canada AD CF-2022-27 for additional background information.

You may examine the MCAI in the AD docket at regulations.gov under Docket No. FAA-2022-1478.

FAA's Determination

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the State of Design Authority, the FAA has been notified of the unsafe condition described in the Transport Canada AD. The FAA is issuing this AD after determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Transport Canada AD CF-2022-27. Transport Canada AD CF-2022-27 specifies instructions for performing a one-time inspection of the rear face of the impeller and replacing the impeller if unacceptable machining witness lines or crack indications are found. Transport Canada AD CF-2022-27 also specifies instructions for replacing the impeller at the next scheduled engine overhaul.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Proposed AD Requirements in this NPRM

This proposed AD would retain none of the requirements of AD 2004-04-09. This proposed AD would require accomplishing the actions specified in Transport Canada AD CF-2022-27, described previously.

Explanation of Required Compliance Information

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has since coordinated with other manufacturers and CAAs to use this process. As a result, the FAA proposes to incorporate by reference Transport Canada AD CF-2022-27 in the FAA final rule. This proposed AD would, therefore, require compliance with Transport Canada AD CF-2022-27 in its entirety through that incorporation. Using common terms that are the same as the heading of a particular section in the Transport Canada AD does not mean that operators need comply only with that section. For example, where the AD requirement refers to "Compliance," compliance with this AD requirement is not limited to the section titled "Corrective Actions" in Transport Canada AD CF-2022-27. Service information required by the Transport Canada AD for compliance will be available at regulations.gov by searching for and locating Docket No. FAA-2022-1478 after the FAA final rule is published.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 100 engines installed on airplanes of U.S. Registry.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Inspect impeller	6 work-hours x $85 per hour = $510	$0	$510	$51,000
Replace impeller	30 work-hours x $85 per hour = $2,550	$75,000	$77,550	7,755,000

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive 2004-04-09, Amendment 39-13490 (69 FR 9520, March 1, 2004); and

b. Adding the following new airworthiness directive:

Pratt & Whitney Canada Corp.: Docket No. FAA-2022-1478; Project Identifier MCAI-2022-00668-E.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2004-04-09, Amendment 39-13490 (69 FR 9520, March 1, 2004) (AD 2004-04-09).

(c) Applicability

This AD applies to Pratt & Whitney Canada Corp. JT15D-1, JT15D-1A, and JT15D-1B model turbofan engines as identified in Transport Canada AD CF-2022-27, dated June 2, 2022 (Transport Canada AD CF-2022-27).

(d) Subject

Joint Aircraft Service Component (JASC) Code 7230, Turbine Engine Compressor Section.

(e) Unsafe Condition

This AD was prompted by three prior reports of uncontained failure of the impeller, and one additional recent report of an in-service uncontained failure event. The FAA is issuing this AD to prevent uncontained failure of the impeller. The unsafe condition, if not addressed, could result in fracture of the impeller, subsequent uncontained failure of the engine, and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Except as specified in paragraph (h) of this AD: Perform all required actions within the compliance times specified in, and in accordance with, Transport Canada AD CF-2022-27.

(h) No Reporting Requirement

Although the service information referenced in Transport Canada AD CF-2022-27 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in § 39.19. In accordance with § 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD and email it to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Additional Information

For more information about this AD, contact Barbara Caufield, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7146; email: barbara.caufield@faa.gov.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Transport Canada AD CF-2022-27, dated June 2, 2022.

(ii) [Reserved]

(3) For Transport Canada AD CF-2022-27, contact Transport Canada, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario K1A 0N5, Canada; phone: (888) 663-3639; email: AD-CN@tc.gc.ca; website: tc.canada.ca/en/aviation.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on November 10, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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